

CLAIM AMENDMENTS

1.-21. (Canceled)

22. (Currently Amended) A semiconductor base comprising a substrate and a ~~semiconductor~~ GaN crystal formed on said substrate by vapor phase growth, wherein

(a) ~~the semiconductor crystal is a GaN group semiconductor crystal defined by~~  
 ~~$\text{Al}_x\text{Ga}_{1-x-y}\text{In}_y\text{N}$ , where  $0 \leq x \leq 1$  and  $0 \leq y \leq 1$ ,~~

(b) ~~the substrate is a base on which is the grown-semiconductor~~ GaN crystal, and which is made of sapphire, wherein the sapphire is C-plane, A-plane, or R-plane, SiC, wherein the SiC is 6H, 4H, or 3C, GaN, Si, Spinel, ZnO, GaAs, or NGO,

(e) (b) the substrate has a concavo-convex surface as a crystal growth plane, and

(d) (c) ~~the semiconductor~~ GaN crystal having been grown laterally from ~~the an~~ upper part of the convex part of the concavo-convex surface and ~~having been grown from~~ a surface of the concave part as starting points, such that the crystal grown laterally from the upper part of the convex part of ~~the concavo-convex surface~~ and the crystal grown from the surface of the concave part are joined to cover the concavo-convex surface of the substrate.

23. (Currently Amended) The semiconductor base of claim 22, wherein the concave part of the substrate is filled with a ~~semiconductor~~ GaN crystal ~~and devoid of a cavity~~.

24. (Previously Presented) The semiconductor base of claim 22, wherein the convex parts of the crystal growth plane of the substrate form parallel stripes.

25. (Currently Amended) The semiconductor base of claim 24, wherein the longitudinal direction of the ~~stripe is~~ stripes are the  $\langle 1-100 \rangle$  direction of the GaN ~~group semiconductor~~ crystal.

26. (Currently Amended) The semiconductor base of any of claims 22-25, wherein the GaN crystal is used as the first semiconductor crystal, wherein the surface of the first semiconductor crystal of the semiconductor base has a second concavo-convex surface, ~~wherein and comprises~~ a second semiconductor crystal having been grown laterally from ~~the an~~ upper part of the convex part of the second concavo-convex surface and ~~having been grown from~~ a surface of the concave part as starting points, such that the crystal grown laterally from the upper part of the convex part of ~~the concavo-convex surface~~ and the crystal

grown from the surface of the concave part are joined to cover the second concavo-convex surface, and wherein the second semiconductor crystal is a GaN group semiconductor crystal defined by  $\text{Al}_x\text{Ga}_{1-x-y}\text{In}_y\text{N}$ , where  $0 \leq x \leq 1$  and  $0 \leq y \leq 1$ .

27. (Currently Amended) The semiconductor base of claim 26, wherein the concave part of said substrate is filled with a ~~semiconductor~~ GaN crystal and devoid of a cavity.

28. (Currently Amended) A semiconductor base comprising plural semiconductor crystal layers formed in multiplicity by making a surface of the second semiconductor crystal layer of the semiconductor base of claim 26 a third concavo-convex surface, and similarly growing thereon[[,]] a third semiconductor crystal layer by vapor phase growth or by repeating a similar step.

29. (Currently Amended) A semiconductor base comprising plural semiconductor crystal layers formed in multiplicity by making a surface of the second semiconductor crystal layer of the semiconductor base of claim 27 a third concavo-convex surface, and similarly growing thereon[[,]] a third semiconductor crystal layer by vapor phase growth or by repeating a similar step.

30. (New) The semiconductor base of claim 22, wherein the area of the concavo-convex surface of the substrate occupied by the convex part is not more than 50%.

31. (New) The semiconductor base of claim 22, wherein the convex part of the concavo-convex surface of the substrate is an island type intersperse convex part, a stripe type convex part consisting of convex lines, a lattice convex part, or any of the foregoing convex parts which is formed by a curve.

32. (New) The semiconductor base of claim 24, wherein the longitudinal direction of the stripes are the  $\langle 11\text{-}20 \rangle$  direction of the GaN crystal.

33. (New) The semiconductor base of claim 24, wherein the convex part has a width of not more than 5  $\mu\text{m}$ .

34. (New) The semiconductor base of claim 22, wherein a buffer layer has been grown and then a GaN crystal has been grown on the concavo-convex surface of a substrate.

In re Appln. of Tadatomo et al.  
Application No. 09/936,683

35. (New) The semiconductor base of claim 34, wherein the buffer layer is a GaN low temperature buffer layer.